



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/812,252	03/19/2001	Gary B. Gordon	10010189-1	7805

57299 7590 05/10/2006

AVAGO TECHNOLOGIES, LTD.
P.O. BOX 1920
DENVER, CO 80201-1920

EXAMINER

ABDULSELAM, ABBAS I

ART UNIT PAPER NUMBER

2629

DATE MAILED: 05/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/812,252	Applicant(s) GORDON ET AL.	
	Examiner Abbas I. Abdulsalam	Art Unit 2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03/13/06.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION.

1. This office action is in response to a communication filed on 03/13/06. Claims 1-35 are pending.

Response to Arguments

2. Applicant's arguments filed on 03/13/06 have been fully considered but they are not persuasive.

Applicant argues that the cited reference, Gillespie et al. (USPN 5880411) does not teach generating movement data based on a comparison of successively generated sets of pixel values. Applicant also argues that Gillespie does not teach correlating at least one version of a first one of the digital images with at least one version of a second one of the digital images to generate motion data across the sensing elements by the appendage.

However, as shown in Fig. 1, Gillespie teaches an outputs of X input processing circuitry 12 and Y input processing circuitry 14 being presented to arithmetic unit 16, which uses the digital information to derive digital information representing the position and pressure of the finger 8 on a sensing plane 10 (col. 9, lines 3-7). Gillespie also teaches that outputs of the arithmetic unit 16 are also directed to gesture unit 20(col. 9, lines 29-34), which is used to recognize certain finger gestures performed by a user on sensing plane 10. Gillespie elaborates the gesture unit 20 in terms of determining whether a drag gesture is continuing or is being ended and a new finger action begun by comparing the lift-off finger position and the touchdown finger position (Fig. 1 (20), Fig. 14 (280, 286) and col. 36, lines 56-65).

Thus clearly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize Gillespie's gesture unit (20) as configured in Fig. 1 notably with an

arithmetic unit (16) for the purpose of quantifying the movement of a finger on the sensing plane (10) as taught Gillespie (see Fig. 14 and Fig. 20).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gillespie et al. (USPN 5880411).

Regarding claims 1 and 19, Gillespie teaches as shown in Fig.1 a capacitive position sensing system 6, which can accurately determine the position of a finger 8 or other conductive object proximate to or touching a sensing plane 10. Gillespie discloses the capacitance of a plurality of conductive lines running in a first direction (e.g., "X") that is sensed by X input processing circuitry 12 and the capacitance of a plurality of conductive lines running in a second direction (e.g., "Y") that is sensed by Y input processing circuitry 14. Gillespie further teaches that the sensed capacitance values are digitized in both X input processing circuitry 12 and Y input processing circuitry 14, and the outputs of X input processing circuitry 12 and Y input processing circuitry 14 are presented to arithmetic unit 16, which uses the digital information to derive digital information representing the position and pressure of the finger 8 or other

Art Unit: 2629

conductive object relative to the sensing plane 10. Furthermore, Gillespie teaches that the X, Y, and Z outputs of arithmetic unit 16 are directed to motion unit 18 which provides the cursor motion direction signals to the host computer (col. 9, lines 3-43 and Fig. 1 (8, 10, 12, 14)).

Gillespie does not specifically teach “a controller configured to generate movement data based on a comparison of successively generated sets of the pixel values, the comparison including comparing a first one of the sets with at least one pixel shifted version of a second one of the sets, the movement data indicative of motion of the tip of the digit across the sensing elements”.

Gillespie on the other hand teaches gesture unit 20, which is used to recognize certain finger gestures performed by a user on sensing plane 10. Gillespie teaches the gesture unit 20 in terms of determining whether a drag gesture is continuing or is being ended and a new finger action begun by comparing the lift-off finger position and the touchdown finger position (Fig. 1 (20), Fig. 14 (280, 286) and col. 36, lines 56-65).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize Gillespie's gesture unit (20) shown in Fig. 1 for the purpose of quantifying the movement of a finger on the sensing plane (10) as taught Gillespie (see Fig. 14 and Fig. 20).

Regarding claims 2, 5-7, 11, 20-23, Gillespie teaches as discussed above, an arithmetic unit 16, which uses the digital information to derive digital information representing the position and pressure of the finger 8 or other conductive object relative to the sensing plane 10. (See Fig. 1 (16)).

Regarding claims 3-4, 15-18 and 28-35, Gillespie teaches sensing plane 10 comprising a touch sensor array 22, and capacitance of a plurality of conductive lines (see Fig. 1(10)).

Art Unit: 2629

Regarding claims 8-9 and 24-25, Gillespie teaches that insulating layer 36 is disposed over the sense pads 34 on top surface 28 (Fig 2 (C-D)).

Regarding claims 10 and 26, Gillespie teaches as shown in Fig. 2, a substrate 24.

Regarding claims 12-14, and 27, Gillespie teaches the use of alternating current, and discloses power conservation device along with a charge integrator circuit 44 (see Fig. 4A) (col. 17, lines 52-57).

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Abbas I. Abdulselem whose telephone number is 571-272-7685. The examiner can normally be reached on Monday through Friday from 9:00 A.M. to 5:30 P.M.

Art Unit: 2629

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Hjerpe can be reached on 571-272-7691. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.


Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Abbas Abdulsalam

Examiner

Art Unit 2629

05/04/06


BIPIN SHALWALA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600